

## PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:

Davies Collison Cave  
Level 15  
1 Nicholson Street  
MELBOURNE VIC 3000

PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

<i>Resp due 23/10/04</i>		Date of mailing (day/month/year) 23 AUG 2004
Applicant's or agent's file reference 12449720	FOR FURTHER ACTION See paragraphs 1 and 4 below	
International application No. PCT/AU2004/000637	International filing date (day/month/year) 14 May 2004	
Applicant VISION FIRE & SECURITY PTY LTD et al		

- ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.  
**Filing of amendments and statement under Article 19:**  
 The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):  
     **When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.  
     **Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
     1211 Geneva 20, Switzerland, Facsimile No.: +41 22 740 14 35  
 For more detailed instructions, see the notes on the accompanying sheet.
- ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
- ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
  - ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
  - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
- Reminders**  
 Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.  
 The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.  
 Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.  
 In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.  
 See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/AU  AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized officer  MICHAEL VALENTINE Telephone No. (02) 6283 2797
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**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL SEARCH REPORT**  
(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>12449720</b>	<b>FOR FURTHER ACTION</b> <div style="float: right; font-size: small;">see Form PCT/ISA/220 as well as, where applicable, item 5 below.</div>	
International application No. <b>PCT/AU2004/000637</b>	International filing date (day/month/year) <b>14 May 2004</b>	(Earliest) Priority Date (day/month/year) <b>14 May 2003</b>
Applicant <b>VISION FIRE &amp; SECURITY PTY LTD et al</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **4** sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box No. II).

3. ☐ Unity of invention is lacking (See Box No. III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. **1**

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/000637

## Box No. IV Text of the Abstract (Continuation of item 5 of the first sheet)

A smoke detector (10) is disclosed which uses a beam of radiation such as a laser (16), to monitor a region, such as a room (12). A camera (14) is used to capture images of part of the room (12), including a path of the laser beam. Particles in the laser beam scatter light (30), and this is captured by the camera (14) for analysis. A processor (20) extracts data relating to the scattered light (30) to determine the density of particles in the beam, to determine the level of smoke in the region. The laser may have a modulated output (38) so that images captured without the laser can be used as a reference point and compared to images taken with the laser on, to assist in determining the level of scattered light (30) compared to ambient light. Filters (24, 26) may be used to decrease signals generated from background light.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/000637

## A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. <sup>7</sup>: G08B 17/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI : smoke, gas, detect, sense, scatter, deviate, variation, beam, ray, image, radiation, modulate and similar terms.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5696379A (STOCK) 9 December 1997, Whole document	1-7, 15-26, 28-31 & 36
X	US 5576697A (NAGASHIMA et al.) 19 November 1996, Whole document	1-7, 15-31 & 36
X	US 3924252 A (DUSTON) 2 December 1975, Figure 1 & 2 and column 1 line 15 – column 2 line 63.	1-6 & 15-31 & 36



Further documents are listed in the continuation of Box C



See patent family annex

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

5 August 2004

Date of mailing of the international search report

23 AUG 2004

Name and mailing address of the ISA/AU

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2004/000637

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
US	5696379	FR	2734906	GB	2301665
US	5576697	DE	4415063	GB	2277589
US	3924252			JP	7012724
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001..					
END OF ANNEX					